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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,931	03/10/2004	In-joon Yeo	5649-1213	3285

7590 03/09/2005

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EXAMINER
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LEE, EUGENE

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/796,931

Applicant(s)

YEO ET AL.

Examiner

Eugene Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 11-20 and 40-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-20 and 40-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 3/10/04.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I (claims 1-5, 11-20, and 40-49) in the reply filed on 1/18/05 is acknowledged.

### *Priority*

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Republic of Korea on 11/17/03. It is noted, however, that applicant has not filed a certified copy of the 03-81099 application as required by 35 U.S.C. 119(b).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 thru 3, 5, 11 thru 20, and 40 thru 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Coursey 6,617,222 B1. Coursey discloses (see, for example, FIG. 16) a semiconductor device (integrated circuit device) comprising a semiconductor wafer (substrate) 12, polysilicon storage plate (first conductive electrode) 70, inhibitor layer (insulating spacer) 110, cell dielectric layer (capacitor dielectric layer), and capacitor top plate layer (second conductive electrode) 132. The thickness of the inhibitor layer is greater than a thickness of the cell dielectric layer.

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Regarding claim 2, see, for example, column 6, lines 12-15, and column 5, line 25, wherein Coursey discloses the cell dielectric layer comprising cell nitride, and the inhibitor layer comprising TEOS, BPSG, etc.

Regarding claim 3, see, for example, FIG. 16 wherein Corsey discloses a transistor 16, BPSG (insulating layer) 32, and pad (conductive plug) 28.

Regarding claims 5, 13, and 40, see, for example, FIG. 16 wherein Corsey discloses the bottom of the inhibitor layer 110 on a recessed portion of the polysilicon storage plate.

Regarding claim 19, the polysilicon storage plate is electrically coupled to the doped area (source/drain region) 14.

Regarding claims 20, and 49, the limitation "a sacrificial layer" is a product-by-process limitation.

5. Claims 1 thru 4, 11, 12, and 14 thru 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hwang et al. 6,489,195 B1. Hwang discloses (see, for example, FIG. 12B) a DRAM cell (integrated circuit device) comprising a substrate 51, storage node (first conductive electrode) 87b, second interlayer insulating film (insulating spacer) 79, capacitor dielectric layer 89, and plate electrode 91. The thickness of the second interlayer insulating film is greater than a thickness of the capacitor dielectric layer.

Regarding claim 2, see, for example, column 8, lines 39-41, wherein Hwang discloses the second interlayer insulating film comprising BPSG.

Regarding claims 3, and 19, see, for example, FIG. 12B wherein Hwang discloses a transistor, insulating layer 65, and pad (conductive plug) 67b, and source region 63b.

### **Product-by-Process Limitations**

While not objectionable, the Office reminds Applicant that “product by process” limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al.*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or *otherwise*. Note that applicant has the burden of proof in such cases, as the above case law makes clear. Thus, no patentable weight will be given to those process steps which do not add structural limitations to the final product.

### **INFORMATION ON HOW TO CONTACT THE USPTO**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 571-272-1733. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eugene Lee  
March 2, 2005

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke at the end.